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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,785	07/31/2000	Duncan J. Forbes	476-1934	4864

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EXAMINER

PHAN, HANH

ART UNIT	PAPER NUMBER
2633	4

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/629,785

Applicant(s)

FORBES ET AL.

Examiner

Hanh Phan

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2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 08/26/2003.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Born et al (US Patent No. 5,058,206).

Regarding claims 1 and 5, referring to Figure 3, Born discloses a communications network for connecting a number of nodes with a headend, the network comprising:

two optical networks (i.e., two fibers networks 1 and 1a, Fig. 3) each comprising a plurality of periodic interleaving filters (i.e., fused type couplers 2, Fig. 3) serially connected by optical waveguides such that an output port of one of periodic interleaving filter (i.e., fused type coupler 2, Fig. 3) is coupled to an input port of another periodic interleaving filter (i.e., another fused type coupler 2, Fig. 3) and wherein an input or output for each the node (i.e., external station 4, Fig. 3) is formed by a non-serially connected input or output port of a said periodic interleaving filter (i.e., fused type

coupler 2, Fig. 3) from each the optical network (col. 3, lines 42-50, col. 4, lines 36-41 and col. 5, lines 16-45).

Regarding claim 3, Born further teaches the optical networks are fiber networks (i.e., two fibers networks 1 and 1a, Fig. 3).

Regarding claim 6, Born further teaches that two of the serially connected periodic interleaving filters are co-located (i.e., fused type couplers 2 are co-located, Fig. 3).

Regarding claim 7, referring to Figure 3, Born discloses a communications network for connecting a number of nodes with a headend, the network comprising:

two optical networks (i.e., two fibers networks 1 and 1a, Fig. 3) each comprising a plurality of periodic interleaving filters (i.e., fused type couplers 2, Fig. 3) serially connected by optical waveguides such that an output port of one of periodic interleaving filter (i.e., fused type coupler 2, Fig. 3) is coupled to an input port of another periodic interleaving filter (i.e., another fused type coupler 2, Fig. 3) and wherein an input or output for each the node (i.e., external station 4, Fig. 3) is formed by a non-serially connected input or output port of a said periodic interleaving filter (i.e., fused type coupler 2, Fig. 3);

wherein the two optical networks together form a ring architecture (Fig. 3, col. 3, lines 42-50, col. 4, lines 36-41 and col. 5, lines 16-45).

Regarding claim 8, referring to Figure 3, Born discloses a method of operating a communications network for connecting a number of nodes with a headend, the network comprising:

two optical networks (i.e., two fibers networks 1 and 1a, Fig. 3) each comprising a plurality of periodic interleaving filters (i.e., fused type couplers 2, Fig. 3) serially connected by optical waveguides such that an output port of one of periodic interleaving filter (i.e., fused type coupler 2, Fig. 3) is coupled to an input port of another periodic interleaving filter (i.e., another fused type coupler 2, Fig. 3) and wherein an input or output for each the node (i.e., external station 4, Fig. 3) is formed by a non-serially connected input or output port of a said periodic interleaving filter (i.e., fused type coupler 2, Fig. 3) from each the optical network;

the method comprising routing traffic between the headend and the nodes (Fig. 3, col. 3, lines 42-50, col. 4, lines 36-41 and col. 5, lines 16-45).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3 and 5-8 are rejected under 35 U.S.C. 103(a) as being obvious over Hamel et al (European Patent No. EP 631405 A1) in view of Born et al (US Patent No. 5,058,206).

Regarding claims 1, 5, 7 and 8, referring to Figure 4, Hamel discloses a communications network for connecting a number of nodes (24) with a headend (40), the network comprising:

two optical networks (i.e., two fibers networks F0 and F'0, Fig. 4) each comprising a plurality of couplers (i.e., couplers C1-C4, Fig. 4) serially connected by optical waveguides such that an output port of one of coupler is coupled to an input port of another coupler and wherein an input or output for each the node (24) is formed by a non-serially connected input or output port of a said coupler from each the optical network (see abstract and Fig. 4).

Hamel differs from claims 1, 5, 7 and 8 in that he fails to teach the couplers are fused fiber couplers. However, Born teaches the couplers are fused fiber couplers (col. 3, lines 42-50). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the couplers are fused fiber couplers as taught by Born in the system of Hamel. One of ordinary skill in the art would have been motivated to do this since Born suggests in column 3, lines 42-50 that using such the couplers are fused fiber couplers have advantage of allowing providing low loss routes for wavelengths around the network and these couplers have small dimensions, they are comparatively cheap.

Regarding claim 3, the combination of Hamel and Born teaches the optical networks are fiber networks (i.e., two fibers networks 1 and 1a, Fig. 3 of Born and Fig. 4 of Hamel).

Regarding claim 6, the combination of Hamel and Born teaches that two of the serially connected periodic interleaving filters are co-located (i.e., fused type couplers 64 are co-located, Fig. 3 of Born).

6. Claims 1, 3 and 5-8 are rejected under 35 U.S.C. 103(a) as being obvious over Hamel et al (European Patent No. EP 631405 A1) in view of Aina et al (Pub. No. US 2001/0024542).

Regarding claims 1, 5, 7 and 8, referring to Figure 4, Hamel discloses a communications network for connecting a number of nodes (24) with a headend (40), the network comprising:

two optical networks (i.e., two fibers networks F0 and F'0, Fig. 4) each comprising a plurality of couplers (i.e., couplers C1-C4, Fig. 4) serially connected by optical waveguides such that an output port of one of coupler is coupled to an input port of another coupler and wherein an input or output for each the node (24) is formed by a non-serially connected input or output port of a said coupler from each the optical network (see abstract and Fig. 4).

Hamel differs from claims 1, 5, 7 and 8 in that he fails to teach the couplers are fused fiber couplers. However, Aina teaches the couplers are fused fiber couplers (Figs. 7 and 8, paragraphs [0100]-[0102] and paragraphs [0119]-[0122]). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the couplers are fused fiber couplers as taught by Aina in the system of Hamel. One of ordinary skill in the art would have been motivated to do this since Aina suggests in paragraphs [0100]-[0102] and paragraphs [0119]-[0122] that using such the couplers are fused fiber couplers have advantage of allowing providing low loss routes for wavelengths around the network and these couplers have small dimensions, they are comparatively cheap.

Regarding claim 3, Hamel further teaches the optical networks are fiber networks (Fig. 4 of Hamel).

Regarding claim 6, the combination of Hamel and Aina teaches that two of the serially connected periodic interleaving filters are co-located (Fig. 4 of Hamel and Figs. 7 and 8 of Aina).

7. Claims 1, 3 and 5-8 are rejected under 35 U.S.C. 103(a) as being obvious over Anderson et al (US Patent No. 5,136,666) in view of Born et al (US Patent No. 5,058,206).

Regarding claims 1, 5, 7 and 8, referring to Figure 2, Anderson discloses a communications network for connecting a number of nodes with a headend, the network comprising:

a plurality of periodic interleaving filters (i.e., fused couplers 64, Fig. 2) serially connected by optical waveguides such that an output port of one of periodic interleaving filter (i.e., fused coupler 64, Fig. 2) is coupled to an input port of another periodic interleaving filter (i.e., another fused coupler 64, Fig. 2) and wherein an input or output for each the node (i.e., a node 61, Fig. 2) is formed by a non-serially connected input or output port of a said periodic interleaving filter (i.e., fused coupler 64, Fig. 2) from each the optical network (col. 8, lines 25-67 and col. 9, lines 1-42).

Anderson differs from claims 1, 5, 7 and 8 in that he fails to teach two optical networks. However, Born teaches two optical networks (Fig. 3, col. 3, lines 42-50, col. 4, lines 36-41 and col. 5, lines 16-45). Therefore, it would have been obvious to one

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having skill in the art at the time the invention was made to incorporate the two optical networks as taught by Born in the system of Anderson. One of ordinary skill in the art would have been motivated to do this since Born suggests in column 5, lines 25-45 that using such two optical networks have advantage of allowing ensuring that in the event of a disturbance or during work on part of the network ring, the information signals can be diverted, due to which the network or at least a large part of it can remain operating.

Regarding claim 3, the combination of Anderson and Born teaches the optical networks are fiber networks (i.e., two fibers networks 1 and 1a, Fig. 3 of Born).

Regarding claim 6, Anderson further teaches that two of the serially connected periodic interleaving filters are co-located (i.e., fused type couplers 64 are co-located, Fig. 2).

8. Claims 1, 3 and 5-8 are rejected under 35 U.S.C. 103(a) as being obvious over Prior Art Fig. 1 in view of Born et al (US Patent No. 5,058,206).

Regarding claims 1, 5, 7 and 8, Prior Art Figure 1 discloses a communications network for connecting a number of nodes (i.e., nodes M, N and O) with a headend (i.e., headend 2a), the network comprising:

two optical networks (i.e., two fibers networks 4x and 4y) each comprising a plurality of filters (i.e., filters 3a, 3b, 3c) serially connected by optical waveguides such that an output port of one of filter is coupled to an input port of another filter and wherein an input or output for each the node is formed by a non-serially connected input or output port of a said filter from each the optical network (see Prior Art Fig. 1).

Prior Art Figure 1 differs from claims 1, 5, 7 and 8 in that it fails to teach the filters are fused fiber couplers. However, Born teaches the filters are fused fiber couplers (col. 3, lines 42-50). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the filters are fused fiber couplers as taught by Born in the system of Prior Art Fig. 1. One of ordinary skill in the art would have been motivated to do this since Born suggests in column 3, lines 42-50 that using such the couplers are fused fiber couplers have advantage of allowing providing low loss routes for wavelengths around the network and these couplers have small dimensions, they are comparatively cheap.

Regarding claim 3, Prior Art Figure 1 further teaches the optical networks are fiber networks .

Regarding claim 6, the combination of Prior Art Figure 1 and Born teaches that two of the serially connected periodic interleaving filters are co-located (Fig. 3 of Born).

9. Claims 1, 3 and 5-8 are rejected under 35 U.S.C. 103(a) as being obvious over Prior Art Fig. 1 in view of Aina et al (Pub. No. US 2001/0024542).

Regarding claims 1, 5, 7 and 8, Prior Art Figure 1 discloses a communications network for connecting a number of nodes (i.e., nodes M, N and O) with a headend (i.e., headend 2a), the network comprising:

two optical networks (i.e., two fibers networks 4x and 4y) each comprising a plurality of filters (i.e., filters 3a, 3b, 3c) serially connected by optical waveguides such that an output port of one of filter is coupled to an input port of another filter and wherein

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an input or output for each the node is formed by a non-serially connected input or output port of a said filter from each the optical network (see Prior Art Fig. 1).

Prior Art Figure 1 differs from claims 1, 5, 7 and 8 in that it fails to teach the filters are fused fiber couplers. However, Aina teaches the filters are fused fiber couplers (Figs. 7 and 8, paragraphs [0100]-[0102] and paragraphs [0119]-[0122]). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the filters are fused fiber couplers as taught by Aina in the system of Prior Art Fig. 1. One of ordinary skill in the art would have been motivated to do this since Born suggests in paragraphs [0100]-[0102] and paragraphs [0119]-[0122] that using such the filters are fused fiber couplers have advantage of allowing providing low loss routes for wavelengths around the network and these couplers have small dimensions, they are comparatively cheap.

Regarding claim 3, Prior Art Figure 1 further teaches the optical networks are fiber networks .

Regarding claim 6, the combination of Prior Art Figure 1 and Aina teaches that two of the serially connected periodic interleaving filters are co-located (Figs. 7 and 8 of Aina).

10. Claims 1, 3 and 5-8 are rejected under 35 U.S.C. 103(a) as being obvious over Braun et al (US Patent No. 5,898,801) in view of Born et al (US Patent No. 5,058,206).

Regarding claims 1, 5, 7 and 8, referring to figure 4H, Braun discloses a communications network for connecting a number of nodes with a headend, the network comprising:

two optical networks (i.e., two fibers networks 114, Fig. 4H) each comprising a plurality of couplers (115) serially connected by optical waveguides such that an output port of one of coupler is coupled to an input port of another coupler and wherein an input or output for each the node is formed by a non-serially connected input or output port of a said coupler from each the optical network (see col. 11, lines 4-37).

Braun differs from claims 1, 5, 7 and 8 in that it fails to teach the couplers are fused fiber couplers. However, Born teaches the filters are fused fiber couplers (col. 3, lines 42-50). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the filters are fused fiber couplers as taught by Born in the system of Braun. One of ordinary skill in the art would have been motivated to do this since Born suggests in column 3, lines 42-50 that using such the couplers are fused fiber couplers have advantage of allowing providing low loss routes for wavelengths around the network and these couplers have small dimensions, they are comparatively cheap.

Regarding claim 3, Braun further teaches the optical networks are fiber networks.

Regarding claim 6, the combination of Braun and Born teaches that two of the serially connected periodic interleaving filters are co-located (Fig. 3 of Born).

Response to Arguments

11. Applicant's arguments with respect to claims 1, 3 and 5-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (703)306-5840.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.



Hanh Phan

12/24/2003